

ESTIMATED U.S. YEARLY ENERGY WASTE FROM DIRTY CONDENSER COILS

Current Industry Practice Regarding Coil Cleaning: “Nobody cleans those things” – One expert stated that 80% of the owners do no maintenance, ever; the remaining 20% do it too infrequently.

Texas Independent School Trade Association Data: **87% of HVAC units** not cleaned/maintained properly --- A/C units get much more attention for maintenance than does the subject of cleaning refrigeration coils.

Commercial Units:

There are about 27 million refrigeration units in commercial buildings in the United States (Source: Energy Information Administration, 2015, private communication).

Dirty coils cause from about \$220/unit/yr to \$625/unit/yr in electric energy waste, depending on the age, size and other characteristics of the appliance. (Source: Food Service Technology Center data on seven differing units presented at the RFMA (Restaurant Facility Managers Association) and CFESA (Commercial Food Equipment Service Association) annual conventions in 2015. (There is no data we could find on which to calculate a true average to encompass the many units in operation). However, despite the disparity in dollar costs, the data showed that dirty coils for four differing of the reported units was narrowly dispersed at 45% to 50%.

For our calculation we will assume a \$432/unit/yr electric waste figure from the reported data: 27 million units x \$432/unit/yr = **\$11.7 billion/yr electric waste.**

Residential Units:

- There are about 125 million households in the US with about 98% of them having refrigerators. We assume a refrigerator unit population of about 120 million for our basis. Additionally, about 20% of US homes have at least one additional refrigerator or freezer. Our assumption from the foregoing: there are about 150 million units in operation in residential settings. The commercial data shows a rough doubling of the electric needed to run a unit with dirty coils. Assuming a \$153 yearly energy cost for running a residential unit with clean coils (from DOE data), our calculation for the waste in electric caused by the existing residential units with dirty coils (assuming, like for the data for the commercial units: a 100% increase in electric waste): 150 million units x \$153 waste/unit = **\$23 billion/yr electric waste.**

Total US Energy Waste: **About \$34.7 Billion**: Commercial (\$11.7 billion) and

Residential (\$23 billion).